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RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/520,489

DATE: 03/27/2000

TIME: 14:59:21

Input Set: I520489.RAW

This Raw Listing contains the General Information  
Section and up to first 5 pages.

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1 <110> APPLICANT: BIOGEN, INC.  
2 <120> TITLE OF INVENTION: April-A Novel Protein with Growth Defects  
3 <130> FILE REFERENCE: A049PCT  
4 <140> CURRENT APPLICATION NUMBER: US/09/520,489  
5 <141> CURRENT FILING DATE: 2000-03-08  
6 <150> EARLIER APPLICATION NUMBER: 60/079,384  
7 <151> EARLIER FILING DATE: 1998-03-26  
8 <150> EARLIER APPLICATION NUMBER: 60/058,756  
9 <151> EARLIER FILING DATE: 1997-09-12  
10 <160> NUMBER OF SEQ ID NOS: 4  
11 <170> SOFTWARE: PatentIn Ver. 2.0  
12 <210> SEQ ID NO 1  
13 <211> LENGTH: 1346  
14 <212> TYPE: DNA  
15 <213> ORGANISM: Homo sapiens  
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19 ttgctttcct cctccctcct ttttattttc aagttccttt ttatttctcc ttgcgtaaca 180  
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28 aaggatgact ccgatgtgac agaggtgatg tggcaaccag ctcttaggcg tgggagaggc 720  
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35 tactggagac agccaagagc tgagtatata aaggagaggg aatgtgcagg aacagaggca 1140  
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37 ttgattttac ggatatcttg cttctgttcc ccatggagct ccgaattctt gcgtgtgtgt 1260  
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41 <211> LENGTH: 250  
42 <212> TYPE: PRT  
43 <213> ORGANISM: Homo sapiens  
44 <400> SEQUENCE: 2

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45      Met Pro Ala Ser Ser Pro Phe Leu Leu Ala Pro Lys Gly Pro Pro Gly
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47      Asn Met Gly Gly Pro Val Arg Glu Pro Ala Leu Ser Val Ala Leu Trp
48          20              25              30
49      Leu Ser Trp Gly Ala Ala Leu Gly Ala Val Ala Cys Ala Met Ala Leu
50          35              40              45
51      Leu Thr Gln Gln Thr Glu Leu Gln Ser Leu Arg Arg Glu Val Ser Arg
52          50              55              60
53      Leu Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly Glu Gly Tyr Pro Trp
54          65              70              75              80
55      Gln Ser Leu Pro Glu Gln Ser Ser Asp Ala Leu Glu Ala Trp Glu Asn
56          85              90              95
57      Gly Glu Arg Ser Arg Lys Arg Arg Ala Val Leu Thr Gln Lys Gln Lys
58          100             105             110
59      Lys Gln His Ser Val Leu His Leu Val Pro Ile Asn Ala Thr Ser Lys
60          115             120             125
61      Asp Asp Ser Asp Val Thr Glu Val Met Trp Gln Pro Ala Leu Arg Arg
62          130             135             140
63      Gly Arg Gly Leu Gln Ala Gln Gly Tyr Gly Val Arg Ile Gln Asp Ala
64          145             150             155             160
65      Gly Val Tyr Leu Leu Tyr Ser Gln Val Leu Phe Gln Asp Val Thr Phe
66          165             170             175
67      Thr Met Gly Gln Val Val Ser Arg Glu Gly Gln Gly Arg Gln Glu Thr
68          180             185             190
69      Leu Phe Arg Cys Ile Arg Ser Met Pro Ser His Pro Asp Arg Ala Tyr
70          195             200             205
71      Asn Ser Cys Tyr Ser Ala Gly Val Phe His Leu His Gln Gly Asp Ile
72          210             215             220
73      Leu Ser Val Ile Ile Pro Arg Ala Arg Ala Lys Leu Asn Leu Ser Pro
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77 &lt;210&gt; SEQ ID NO 3

78 &lt;211&gt; LENGTH: 917

79 &lt;212&gt; TYPE: DNA

80 &lt;213&gt; ORGANISM: murine

81 &lt;400&gt; SEQUENCE: 3

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86      atgtcctgga agcctggaag gatggggcga aatctcggag aaggagagca gtactcaccc 300
87      agaagcaca gaagaagcac tcagtctctg atcttggtcc agttaacatt acctccaagg 360
88      actctgacgt gacagaggtg atgtggcaac cagtacttag gcgtgggaga ggccctggag 420
89      gccaggggag acattgtacg agtctgggac actggaattt atctgctcta tagtcaggtc 480
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93      ccacgggcaa acgcaaaact tagcctttct ccgcatggaa cattcctggg gtttgtgaaa 720
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97      tgtttatctc ccaaaaaa                                     917
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106             20             25             30
107     Ile Gln Gln Thr Glu Leu Gln Ser Leu Arg Arg Glu Val Ser Arg Leu
108             35             40             45
109     Gln Arg Ser Gly Gly Pro Ser Gln Lys Gln Gly Glu Arg Pro Trp Gln
110             50             55             60
111     Ser Leu Trp Glu Gln Ser Pro Asp Val Leu Glu Ala Trp Lys Asp Gly
112             65             70             75             80
113     Ala Lys Ser Arg Arg Arg Arg Ala Val Leu Thr Gln Lys His Lys Lys
114             85             90             95
115     Lys His Ser Val Leu His Leu Val Pro Val Asn Ile Thr Ser Lys Asp
116             100            105            110
117     Ser Asp Val Thr Glu Val Met Trp Gln Pro Val Leu Arg Arg Gly Arg
118             115            120            125
119     Gly Pro Gly Gly Gln Gly Asp Ile Val Arg Val Trp Asp Thr Gly Ile
120             130            135            140
121     Tyr Leu Leu Tyr Ser Gln Val Leu Phe His Asp Val Thr Phe Thr Met
122             145            150            155            160
123     Gly Gln Val Val Ser Arg Glu Gly Gln Gly Arg Arg Glu Thr Leu Phe
124             165            170            175
125     Arg Cys Ile Arg Ser Met Pro Ser Asp Pro Asp Arg Ala Tyr Asn Ser
126             180            185            190
127     Cys Tyr Ser Ala Gly Val Phe His Leu His Gln Gly Asp Ile Ile Thr
128             195            200            205
129     Val Lys Ile Pro Arg Ala Asn Ala Lys Leu Ser Leu Ser Pro His Gly
130             210            215            220
131     Thr Phe Leu Gly Phe Val Lys Leu
132     225            230

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VERIFICATION SUMMARY  
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